1860MNRAS..20..329G

Observations of the Occultation of Jupiter by the Moon, made at the Royal Observatory, Greenwich, 1860, *May* 24.

(Communicated by the Astronomer Royal.)

Phenomenon.	Greenwich Mean Solar Time of Observation. Hour and Minute.	Seconds observed by M.	D.
	h m	s	s
First Contact	4 34	49·0	...
Disappearance	4 35	53·4	54·2
Reappearance	5 46	17·6	12·6
Last Contact	5 47	20·4	20·4

Notes by Mr. Main [M.]. The observations were made with the Sheepshanks' equatoreal. At the reappearance of the first limb of *Jupiter*, the time recorded is probably a second or two late, the planet having emerged when first seen; all the other observations are perfectly satisfactory.

By Mr. Dunkin [D.]. The instrument used was the new S.E. equatoreal. At the first contact the occultation of the first limb of the planet evidently took place before I noticed any alteration in the appearance of *Jupiter* at $4^{h}\ 34^{m}\ 50^{s}$. The remaining observations are considered very satisfactory.

Notwithstanding the daylight and the excessive faintness of *Jupiter* at the reappearance at $5^{h}\ 47^{m}$, I was surprised to notice the visibility of the belts, which appeared as several exceedingly thin parallel lines.

The satellites of *Jupiter* were not visible.

Observations of the Occultation of Jupiter by the Moon on the 24th May, 1860. By Thomas Gaunt, Esq.

(Extract from a Letter to one of the Secretaries).

"I send you the following account of the occultation of *Jupiter* by the moon on the 24th ult., as seen by me at Stoke Newington. The observation was made with an achromatic of 3·3 inches aperture, 50-inches focus, the immersion with a power of 50, and the emersion with a power of 70.

"At the immersion I could not see the dark limb of the moon until the planet appeared to touch it, and then only to the extent of the diameter of the planet; but what I was most struck with was the appearance on the moon as it passed over the planet. It appeared as though the planet was a dark object, and glided on to the moon instead of behind it, and the appearance continued until the planet was hid, when I suddenly lost the dark limb of the moon altogether. The equatoreal belts were visible up to the edge of the moon.

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"At emersion the planet was but a little paler and greyer than the moon, and when about one-third out there appeared a dark broad line down the bright limb of the moon over the planet, and it remained visible until the whole of the planet was seen, it was about double the width of the equatoreal belts, but much darker. The belts were very distinct up to the dark band down the moon's bright limb.

"A lady observed the occultation at the same place with an achromatic of 3·25 inches aperture, 42 inches focus, and a power of 45, but she did not see the appearance I did at immersion, when the planet touched the moon the dark limb became visible to the extent of about three diameters of *Jupiter*, as though it was enlightened. At emersion she also saw the dark band down the bright limb of the moon. No distortion of the planet was noticed by either of us. The sun was very brilliant both at immersion and emersion.

"I enclose you a sketch of the appearances as I saw them.

"*June* 6, 1860."

Observations of the Occultation of Jupiter by the Moon, made at Highbury, 1860, *May* 24. By T. W. Burr, Esq.

	Local Sid. Time. h m s	Moon's Limb.
The Planet's 1st Limb disappeared at	8 44 6·7	Dark
,, 2d ,, ,,	8 45 4·9	
,, 1st ,, reappeared at	9 55 48	Bright
,, 2d ,, ,,	9 56 44·7	

The times of first contact and first reappearance are uncertain, and probably one or two seconds late. The observations of last contact in each case are very good. The clock-error was checked by a transit of *Regulus* immediately after the emersion. The planet was well seen, notwithstanding the strong sunlight (4^h 34^m G. M. T.), but, of course, without any belts. The moon's dark limb could not be detected until it touched the planet, when it was seen very sharply defined and black; and as it passed, the disk of *Jupiter* in front appeared to brighten, so that the moon's limb was preceded by a bright band of light; doubtless an effect of contrast. At the reappearance nothing unusual was noticed, but the difference of hue and brilliancy between the planet and our satellite was very marked, *Jupiter* being, as noted in prior occultations, of a faint indigo tint.

The telescope used was by Ross, of 3⅜ inches aperture; focal length, 52 inches; power, 58. Longitude, 23^s·8 W.

Highbury, June 4, 1860.

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